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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ukyo Mori

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9011

7590

05/04/2006

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EXAMINER

DEAN, RAYMOND S

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/988,681	<b>Applicant(s)</b> MORI, UKYO	
	<b>Examiner</b> Raymond S. Dean	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 15 - 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15 - 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claim 15 have been considered but are moot in view of the new ground(s) of rejection.

Examiner respectfully disagrees with Applicant's assertion that Kaschke does not show or suggest a plate member having a transparent central section overlying the display. Kaschke, as asserted in the Office Action dated December 8, 2005, teaches a top part or surface of an interface module (102), which is the plate member (See Figures 1,2). The top part of the module comprises a transparent section, which overlies the display (See Figures 1, 2, 114). Kaschke, as asserted in the Office Action dated December 8, 2005, further teaches a driving unit connected to a colored section, which is adjacent to the transparent section (Figures 1, 2, Column 2 lines 4 – 8, the electro-acoustic transducer (108) is the driving unit). The electro-acoustic transducer will vibrate the top part or surface in response to an audio signal such as a voice signal.

Azima (WO 00/02417) teaches a transparent section, which is a part of a top part or surface, that is vibrated to create a sound in response to an audio signal (See Figure 4, Page 11 lines 26 – 28, Page 12 lines 1 – 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the interface module of Kaschke with the transparent panel of Azima for the purpose of enabling the mobile phone to have only one surface

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area used for both a display and a loudspeaker thus removing limits placed on the minimum size of the mobile phone as taught by Azima.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 15, 22 – 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaschke (5,999,821) in view of Azima et al. (WO 00/02417).

Regarding Claim 15, Kaschke teaches an electronic device comprising: a main body (Figure 1); a display disposed on the main body for displaying information (Figure 1, 114); a plate member having a transparent central section overlying the display (Figures 1, 2, the top surface of the user interface module is the plate member, said surface comprises a transparent section enabling the display to be viewed by the user) and a colored section adjacent the transparent central section and positioned other than overlying the display (Figures 1, 2, the sections surrounding the transparent section comprise color); and a driving unit connected to the colored section of the plate member for vibrating the plate member in response to an audio signal (Figures 1, 2, Column 2 lines 4 – 8, the electro-acoustic transducer (108) is the driving unit).

Kaschke does not teach vibrating the plate member to cause the plate member to create a sound in response to an audio signal.

Azima teaches vibrating the plate member to cause the plate member to create a sound in response to an audio signal (Figure 4, Page 11 lines 26 – 28, Page 12 lines 1 – 8, the transparent section, which is a part of a top part or surface, is vibrated to create a sound in response to an audio signal).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the interface module of Kaschke with the transparent panel of Azima for the purpose of enabling the mobile phone to have only one surface area used for both a display and a loudspeaker thus removing limits placed on the minimum size of the mobile phone as taught by Azima.

Regarding Claim 22, Kaschke in view of Azima teaches all of the claimed limitations recited in Claim 15. Kaschke further teaches a plurality of driving units installed at plural places on the colored section of the plate member (Figures 1, 2, transducers (108, 110).

Regarding Claim 23, Kaschke in view of Azima teaches all of the claimed limitations recited in Claim 15. Kaschke further teaches wherein the colored section comprises an edge section circumscribing the transparent central section (Figures 1, 2, the sections surrounding the transparent section comprise color).

4. Claims 16, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaschke (5,99,821) in view of Azima et al. (WO 00/02417), hereafter Azima1, as

applied to Claim 15 above, and further in view of Azima et al., hereafter Azima2 (US 6,332,029).

Regarding Claims 16, 19, Kaschke in view of Azima1 teaches all of the claimed limitations recited in Claim 15. Kaschke further teaches a driving unit installed on the colored section of the plate member (Figures 1, 2, Column 2 lines 4 – 8, the electro-acoustic transducer (108) is the driving unit).

Kaschke in view of Azima1 does not teach a magnet/magnet installed on the colored section of the plate member, and a voice coil/voice coil installed on the colored section of the plate member.

Azima2 teaches a magnet (Figure 9, Column 30 lines 16 – 23), and a voice coil (Column 23 lines 54 – 57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the transducer of Kaschke in view of Azima1 with the magnet of Azima2 for the purpose of providing an alternate means for enabling a user to hear audio data as taught by Azima.

5. Claims 17 – 18, 20 – 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaschke (5,99,821) in view of Azima et al. (WO 00/02417), hereafter Azima1, in view of Azima et al. (US 6,332,029), hereafter Azima2, as applied to Claims 16, 19 above, and further in view of Porrazzo et al. (5,872,855).

Regarding Claims 17, 20, Kaschke in view of Azima1 and in further view of Azima2 teaches all of the claimed limitations recited in Claims 16, 19. Azima2 further

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teaches the magnets are disposed at places inside and outside of the frame of the voice coil (Figure 11a, Column 31 lines 43 – 47, the magnetic system comprises the poles, Figure 11a shows said poles on the inside and outside of the coils (13)).

Kaschke in view of Azima1 and in further view of Azima2 does not teach wherein the voice coil is a planar coil having a shape of a quadrilateral frame.

Porrizzo teaches wherein the voice coil is a planar coil having a shape of a quadrilateral frame (Column 6 lines 7 – 11, the voice coil is a planar coil, which means that said coil will be in a two dimensional plane, squares, rectangles, and quadrilaterals have two dimensional planes thus said planar coil can be square, rectangular, or quadrilateral shaped).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use planar coils taught above by Porrizzo in the system Kaschke in view of Azima1 and in further view of Azima2 for the purpose of producing sound in a plurality of frequency ranges as taught by Porrizzo.

Regarding Claims 18, 21, Kaschke in view of Azima1 and in further view of Azima2 teaches all of the claimed limitations recited in Claims 16, 19. Kaschke in view of Azima1 and in further view of Azima2 does not teach wherein the first voice coil is a planar voice coil and a second planar voice coil adjacent the first voice coil in a direction orthogonal to a surface on which the first voice coil is installed.

Porrizzo teaches planar voice coil (Column 6 lines 7 – 11, the voice coil is a planar coil, which means that said coil will be in a two dimensional plane, squares, rectangles, and quadrilaterals have two dimensional planes thus said planar coil can be

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square, rectangular, or quadrilateral shaped) and a second planar voice coil adjacent the first voice coil in a direction orthogonal to a surface on which the first voice coil is installed (Figure 2A, Figure 3C, Column 5 lines 31 – 36, the coils are layered in a direction that is orthogonal to the plane of the sound driver surface (106)).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the voice coil arrangement taught by Porrazzo in the mobile device of Kaschke in view of Azima1 and in further view of Azima2 for the purpose of adding versatility to the performance of the loudspeaker panel as taught by Porrazzo.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.



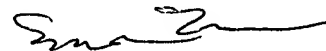
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S. Dean whose telephone number is 571-272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). **PLEASE NOTE:** Art Unit 2684 is now Division 2618.



Raymond S. Dean  
April 19, 2006



EDWARD F. URBAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600